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# The Prevention of Tropical Abscess of the Liver by the Treatment of the Pre- suppurative Stage with Ipecacuanha



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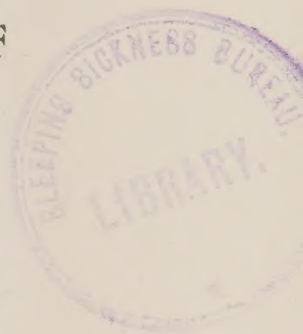
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## THE PREVENTION OF TROPICAL ABSCESS OF THE LIVER BY THE TREATMENT OF THE PRESUPPURATIVE STAGE WITH IPECACUANHA.

BY LEONARD ROGERS, M.D., F.R.C.P., B.S.,  
F.R.C.S.

### INTRODUCTION.

Many of our most valued drugs have first been used by untrained herbalists, and even when taken up by the medical profession have for long been prescribed on purely empirical lines, yet later have been shown by scientific investigation to be of great importance. Until, however, their use has been placed on the sure footing of definite knowledge great fluctuations of opinion regarding their value in different conditions are liable to occur. Such has been the fate of ipecacuanha, a drug with a long Indian history of valuable service, but one which has fallen into undeserved neglect in recent times, so that two years ago a committee of London therapists, with little or no tropical experience, actually suggested its being omitted from the field service pannier for use on Indian military expeditions. The reason for this change of view is not far to seek, for the disease in which the drug has been found to be of the greatest value in India is in the treatment of dysentery, which we now know to comprise at least two great classes of patholog-



ical processes, the bacillary and the amebic groups, which are not equally amenable to the same lines of treatment. Annesley, the great Madras physician, as early as 1828 divided this disease into uncomplicated and hepatic dysenteries, the latter comprising those cases in which symptoms of involvement of the liver occurred. This acute clinical differentiation largely corresponds with the present-day classification, for it is the amebic form which is so closely related to acute hepatitis, although rarely suppurative pylephlebitis may follow the sloughing bacillary form, but is seldom diagnosed during life.

During the last few years the saline treatment of dysentery has to a large extent superseded the use of ipecacuanha, even in India, but it is worthy of note that this has especially been the case in South Africa during the Boer war, and in Indian jails, in both of which tropical liver abscess, the most important complication of the amebic form of dysentery, is extremely rare. A few observations I made several years ago in Calcutta indicated that even in this home of amebic abscess the majority of cases of dysentery were still bacillary in origin, although further experience has shown me that the amebic form is commoner than I at first thought. A recent investigation of Bengal jail dysentery by Captain Forster, I.M.S., has shown that the great majority



of such cases are bacillary, mostly of the Shiga type, although some are due to Flexner's bacillus. We see from this that where ipecacuanha treatment has failed the vast majority of the cases were bacillary in nature, in early cases of which the saline treatment gives the best results. On the other hand, in my experience the value of ipecacuanha is far greater in amebic dysentery, although in advanced cases with secondary infections it often has to be supplemented by other measures. If the above view is correct the comparative neglect of ipecacuanha of recent years is largely due to its having been given in unsuitable cases, and further knowledge of the clinical differentiation of the various types of dysentery is urgently needed for guidance in the appropriate treatment of this class of disease.

A further and equally important use for ipecacuanha is in the treatment of the hepatic complications of amebic dysentery. A generation ago Maclean and Norman Chevers recommended large doses of the drug in acute hepatitis, actually in order to prevent suppuration taking place, but unfortunately this practice has also largely fallen into abeyance with the comparative neglect of the drug in dysentery, the empirical nature of its use not being sufficiently firmly based to prevent this regrettable reaction.

THE WRITER'S RESEARCHES ON AMEBIC  
HEPATITIS.

During the last nine years I have enjoyed exceptionally favorable opportunities for investigating amebic diseases in Calcutta, and have gradually come to the conclusion that amebic abscess of the liver is an easily preventable disease, so a brief outline of the data on which this view is based may be of interest. At the time I commenced work amebic dysentery had been recognized by Councilman and Lafleur in America, and by Kartulis in Egypt, while in both countries, as well as in India, living amebæ had been found in a small number of tropical liver abscesses, but in under half the cases examined, its pathogenicity being not at all generally accepted. In 1902<sup>1</sup> I published the results of two years' work, during which by examining scrapings from the walls of liver abscesses either post mortem, at the time of operation, or at a subsequent dressing, I found living amebæ in 35 out of 37 consecutive cases, the two negative ones not being examined until twelve or more days after opening, when the infection may have died out. Moreover, in two-thirds of the cases the pus was sterile on culture for bacteria, while in recent series with more careful sterilization of test-tubes, etc., 80 per cent were at first sterile. Unfortunately, in the hot, damp Calcutta climate it is very exceptional that



the contents remain sterile after the abscess has been opened a few days.<sup>2</sup>

At this time the relationship of amebic abscess to preceding dysentery was in a very unsettled state. Dr. Andrew Duncan, in opening a discussion on the subject at the British Medical Association in 1902, expressed the opinion that the two diseases were not causally related. In my paper read at the same meeting I showed that, where both a history of the case and a post-mortem was obtainable in fatal amebic abscesses, dysentery could be proved to have been present in 90 per cent, and in my experience it was always of the amebic type. In 12.5 per cent a history of dysentery had been obtained, but no ulcers were present post mortem, having previously healed, while in no less than 20 per cent there had been no symptoms or history of dysentery, yet amebic ulcers were found post mortem, often limited to the cecum and ascending colon. The few remaining cases may be explained by similar latent antecedent ulcers having also healed before the liver abscess proved fatal, often after several months of hepatic trouble. I therefore concluded that amebic abscess of the liver is always preceded by active or latent amebic dysentery, to which it is secondary.

At this stage I investigated the effect of certain drugs on the amebæ of liver abscesses, which led me to advocate aspiration

and injection of quinine solutions in the place of draining early cases, and reported two successful cases of this treatment.<sup>3</sup> Others have since published similar results, but in large abscesses a single injection is not sufficient, although recently two cases of 86 and 72 ounces liver abscesses respectively have become encysted after three or four such aspirations and quinine injections. The solution used at present is 10 grains to the ounce of the soluble bihydrochloride, up to four ounces being injected at a time.

It was while doing blood counts in cases of acute hepatitis with a view to the early detection of suppuration in the liver for the quinine injection treatment that I ascertained that leucocytosis occurs in amebic hepatitis long before any suppuration has taken place, repeated exploratory aspiration, even with the abdominal cavity open, failing to locate any pus in several cases with marked leucocytosis, who subsequently lost their fever and hepatic symptoms completely. The majority of such cases had no symptoms of dysentery while in hospital, and frequently also no history of the disease. Nevertheless, from my previous experience related above I felt sure there must have been latent amebic ulcers in these patients also at some time or other before the hepatitis set in, so I determined to treat all such cases, in which signs of actual sup-



puration were not clearly evident on admission, with large doses of ipecacuanha, in the hope that the amebic disease might be healed and the secondary infection of the liver prevented. The results exceeded my most sanguine expectations, and in 1907<sup>4</sup> I was able to publish twelve cases of acute hepatitis treated at the European General Hospital, Calcutta, in the great majority of which the temperature fell to normal within two to six days, the hepatic pain and increase in size of the liver also rapidly subsiding, although in six of them fever had previously been present for from thirty-four to fifty-three days. In this series the symptoms had been so acute that in three of them aspiration of the liver for pus had been undertaken, with a negative result. In only three of these cases had dysentery been recently present, while in three no definite symptoms of hepatitis were noted, and I was only led to adopt the treatment by finding a marked leucocytosis in an obscure fever, with only 70 to 80 per cent of polynuclears, this being the usual type of blood change in amebic hepatitis.

#### FURTHER RECENT EXPERIENCE OF IPECACUANHA TREATMENT OF AMEBIC HEPATITIS.

If my contention is right that amebic hepatitis can be detected and readily cured in the presuppurative stage, and abscess formation thus certainly prevented, then the

reintroduction and placing of this method on a sound scientific basis is clearly a matter of the greatest practical importance, and no apology is needed for putting my further experience on record. This can best be done by giving a brief analysis of the more important features of 25 further cases treated at the Calcutta European Hospital during 1907 and 1908.

*Previous Dysentery.*—Among the 25 cases there was a history of antecedent dysentery in only 12, including two with symptoms in hospital, two with a history of the disease within a few days before admission, and eight which had suffered from it at periods varying between one and thirty months previously. In another case there had been recent diarrhea. One patient had suffered from liver abscess two and a half years ago, and three more had had previous attacks of acute hepatitis.

*Hepatic Symptoms.*—These varied greatly in severity. In four instances they were so acute that the patients were sent from distant places to Calcutta for operation for liver abscess, while in many of them a suspicion of suppuration was entertained in hospital. In nearly all the liver was enlarged below the costal margin, and in some the dulness was increased upward. In nearly all the more acute cases *x*-rays showed the right diaphragm to be high and either motionless or moving much less than



normal. In a minority the symptoms were less acute, with history of fever for several weeks.

*Duration of Illness.*—In eleven cases there was a history of fever for a month or more, but in six the patients came under treatment within the first week. The duration of the fever after full doses of ipecacuanha were given was not over seven days in 19 of the cases, while in others the temperature had fallen to a low point within that period. The first sign of improvement noticed was a marked diminution of the hepatic pain, then the fever began to fall, and lastly the size of the liver decreased. Soon after the temperature has fallen to normal the diaphragm is nearly always found to have regained its proper range of movement. In one case there was some opacity at the base of the right lung on admission, which also completely cleared up. If the pain and fever continue undiminished for several days liver abscess should be suspected, although if the pain diminishes the persistence of slight fever for beyond a week may still be followed by complete resolution. The blood was not examined in all these cases, as it was often important to commence the treatment without any delay, but in nine cases of which I have records leucocytosis was present in all. This affords strong evidence of the acuteness of the majority of them. Indeed,

I know of nothing so striking as the rapid subsidence of a very acute hepatitis threatening liver abscess under treatment by large doses of ipecacuanha, and I have received numerous letters from medical men in various parts of India describing the effects as "marvelous."

I have mentioned that in my first series of cases several were aspirated for liver abscess with a negative result, and subsequently rapidly cured by the drug treatment. Such cases are absent from the present series, because, unless there is the clearest possible evidence of abscess formation, ipecacuanha is always given before an exploratory operation is undertaken. During the last month, however, an exception occurred in the case of an elderly female patient with very acute hepatitis, whose right diaphragm became fixed while taking ipecacuanha, but a negative exploration was subsequently followed by complete subsidence of all the symptoms, including the fever. The possibility of a small abscess becoming encysted here suggests itself.

*Result of the Occurrence of Liver Abscess.*—Before I introduced this treatment at the Calcutta European Hospital it was a matter of frequent occurrence for a patient to be admitted for acute or subacute hepatitis, and after being under treatment with ammonium chloride and other drugs for several weeks, the signs of abscess



formation supervened and necessitated operative measures. The benefits derived from the present system may be briefly, but strikingly, summed up by recording the simple fact that during the last three years no patient has developed a liver abscess in the open wards of this hospital with 100 beds for European male patients, while several cases sent for operation for this dread disease have recovered completely under ipecacuanha treatment, having fortunately come under treatment while still in the presuppurative stage. An analysis of a number of liver abscess cases showed that in Europeans symptoms of fever and hepatitis had been present for a month or more in 50 per cent, while in 34 per cent more they had been evident for from two to four weeks, and in four cases the time was only nine to thirteen days. In Indian patients the periods were still longer, so that it is clear that in the vast majority of instances there is ample time for the diagnosis and efficient treatment of the disease in the presuppurative stage. In fact I am now prepared to say that amebic abscess of the liver is a preventable disease in patients coming early under skilled treatment, and ought soon to become a very exceptional occurrence, which should cause serious questionings in the mind of the medical man under whose hands it has been allowed to develop.

THE USE OF IPECACUANHA AFTER OPERATION  
FOR LIVER ABSCESS TO PREVENT RECUR-  
RENCES.

I have shown that in post-mortems on liver abscess subjects latent amebic ulcers, which have given no sign of their presence while the patient was in hospital, are frequently found. As it has not hitherto been the practice to take any routine steps to remove this cause of suppurative hepatitis, it is not very surprising that fresh abscesses not rarely form in the liver, either while the patient is under surgical treatment for the first, or within a year or two of his recovery. I have therefore advised that every patient operated on for liver abscess (whether by the open method or by my plan of repeated aspiration and quinine injection) should also be given a course of large doses of ipecacuanha as soon as he is able to stand it. Several recent cases have confirmed the importance of this routine. Thus, Captain Foster Reany, I.M.S., has reported to me the case of a native soldier, who developed fever when almost convalescent from operation for liver abscess, but the threatening symptoms rapidly subsided under ipecacuanha. In another case of a strong European three operations for liver abscesses were performed within three months by a very experienced surgeon, a large new abscess being opened on the last occasion. The



patient was still not doing well, when he was put on ipecacuanha, and the cavity washed out with quinine solution. His temperature rapidly fell to normal, and he began to pick up, eventually recovering completely without any further abscess formation, although the extensive wounds took several weeks to heal. These instances will suffice to confirm my opinion that ipecacuanha should never be omitted in the after-treatment of these cases.

#### DURATION AND METHOD OF TREATMENT.

Some important practical points in carrying out this treatment remain to be dealt with. In the earlier cases the drug was left off as soon as the temperature fell to normal, but one of the patients returned with a liver abscess several months later. For the last three years it has been usual to continue full doses of 20 to 30 grains once a day for one or two weeks after the temperature fell to normal, and in smaller doses for some time longer in the more acute cases. We have not yet had any relapses under this plan. Full doses are required, and as much as sixty grains at a time have been administered. I think, however, that the full effects can be got with half that amount, while in feeble patients or females twenty grains will usually suffice. In one case only five-grain doses were given by mistake, and a very acute

hepatitis subsided completely, although much more slowly than is usual under fuller doses in other cases.

One reason why this valuable remedy has fallen into disrepute is doubtless the great unpleasantness attending its use in sufficient doses. The usual method is to give it as a powder some twenty minutes after a dose of tincture of opium, or better, twenty grains of chloral hydrate, no food or drink being given for several hours before and after, the patient being kept as quiet as possible and instructed to try not to vomit. By giving one large dose late in the evening he will often sleep through his troubles, while if he does not vomit until after three hours or more, but little of the drug will be lost. A method used with success in the Philippine Islands, and also recently in Calcutta, is to make fresh five-grain pills of ipecacuanha, and brush them over with a thick coating of melted salol, which does not readily dissolve in the stomach. A still better plan has been introduced by me in Calcutta with very favorable results: it is to put up the powdered drug in five-grain doses in keratinized capsules, which do not dissolve in the stomach, but carry the drug into the bowel, where its action is required. This method has done much to get over the objections to the treatment. How the ipecacuanha acts is unknown. That a solution of the drug in water has little or no



action on the ameba is certain, so that it would appear to be altered in some way in the gastrointestinal canal or during absorption, for there is nothing more certain than the fact that it does exert a beneficial action in presupplicative amebic hepatitis and in certain types of dysentery in India which is little short of miraculous.

1. *British Medical Journal*, Sept. 20, 1902, and June 6, 1903.

2. *British Medical Journal*, Oct. 24, 1908, p. 1246.

3. *British Medical Journal*, June 16, 1906, p. 1397.

4. *Practitioner*, June, 1907, p. 776, and *Fevers in the Tropics*, p. 173.









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